REMARKS

Claims 1 through 8 are now presented for examination. Claims 1, 7 and 8 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. Support for the proposed amendments may be found in the original application. No new matter has been added. Claims 1, 7 and 8 are the only independent claims

Claims 1 to 4 and 6 have been rejected under 35 U.S.C. § 102(b), as anticipated by U.S. Patent No. 5,801,781 (Hiroshima, et al.). Claim 5 has been rejected under 35 U.S.C. § 103(a), as unpatentable over the Hiroshima '781 patent, further in view of U.S. Patent No. 5,631,888 (Itoh). With regard to the claims as currently amended, these rejections are respectfully traversed.

Independent Claim 1 as currently amended is directed to encoding apparatus that variable length packetizes variable length encoding image data by a packet format in which a packet header has a code area indicating the value of packet length. The code area describes a code indicating the packet length in case the packet length is less than or equal to a predetermined value and describes a code indicating not to decide a packet length in case the packet length is larger than the predetermined value. In the encoding apparatus, an input unit inputs variable length encoding image data which includes a picture header indicating the start of one picture. A header detecting unit detects the picture header input by the inputting unit. A data length detecting unit detects whether the data length of variable length encoding image data for one frame input by the inputting unit reaches a predetermined value. The predetermined value is less than or equal to a maximum value of the packet length which can be specified in the code area. A packetizing unit variable length packetizes the variable length encoding image data according to the output of the header detecting unit and the data length detecting unit. The packetizing unit divides into the predetermined value and performs packetizing in case the data length of variable length

encoding image data of one frame is larger than the predetermined value and performs packetizing without dividing the variable length encoding image data in case the data length of variable length encoding image data of one frame is lower than the predetermined value.

In Applicant's view, Hiroshima et al. discloses apparatus that converts a moving picture stream of MPEG1 to a transport stream of MPEG2 in which a demultiplexer receives an MPEG1 system stream obtained by multiplexing encoded data of video and audio and separates the stream into elementary streams (ES) of video and audio. A packetizer forms packetized elementary streams (PES) of MPEG2 and a multiplexer divides the stream into transport packets each having a prefixed length of 188 bytes and, after that, converts the stream to an MPEG2 transport stream (TS).

In Applicant's opinion, Michener discloses an arrangement that distributes high definition television (HDTV) and standard definition television (SDTV) signals via satellite. At the transmission station an MPEG-2 video encoder compresses a video signal and a digital encoder encodes an audio signal. The compressed video and the encoded audio are coupled to PES packetizers, which generate video and audio packetized elementary data streams having PES headers and PES payloads. Within each PES header is a presentation time stamp (PTS), which is representative of the time at which the payload is to be displayed to the user. The packetized elementary data streams are multiplexed together by a transport multiplexer and repacketizer and broadcast to receiver stations, via satellite. The receiver stations receive the PES information and obtain the PTS. A receiver station multiplies the PTS by 300 and compares its local clock reference to that time. When the local clock reference and the PTS are identical, the PES audio and video information is displayed to the user according to the local clock reference.

According to the invention of Claim 1 as currently amended, a packetizing unit divides into the predetermined value that is less than a maximum value of packet length that can be specified in a code area and performs packetizing in case the data length of variable length encoding image data of one frame is larger than the predetermined value and performs packetizing without dividing the variable length encoding image data in case the data length of variable length encoding image data of one frame is lower than the predetermined value. Advantageously, whether to perform packetizing by dividing or not dividing is selected according to a detected result of picture header detection and data length detection of whether the data length reaches the predetermined value within the maximum value of the code area.

Hiroshima et al. may teach packetizing PES data. As disclosed at lines 37 through 46 of column 11 with respect to Fig. 15 of Hiroshima et al., "when the TS header is formed in step S2, the data of 184 bytes which were cut out from the PES data is stored into the TS payload in step S3. In step S4, a check is made to see if the number of PES data bytes is larger than 184 bytes of the TS payload or not. If YES, the processing routine is returned to step S2 and a next TS packet is formed. When the number of bytes of the PES data is smaller than 184 bytes of the TS payload in step S4, step S5 follows. "0xFF" is inserted to the remaining portion of the TS payload and the MPEG2-TS is completed in step s6." As a result, the Hiroshima et al. arrangement fails to teach or suggest the feature of Claim 1 of packetizing means that divides into a predetermined value less than a maximum code area set value and performs packetizing in case the data length of variable-length encoding image data of one frame is larger than the predetermined value or performs packetizing without dividing the variable-length encoding image data in case the data length of variable length encoding image data of one frame is lower than the predetermined value according to detected picture header input and detected frame data length. It is

therefore believed that Claim 1 as currently amended is completely distinguished from Hiroshima et al.

Claim 1 as currently amended includes the feature that the predetermined value is less than or equal to a maximum value of the packet length specified in the code area. Michener et al. discloses that it is known PES packets are variable length packets and may have a maximum size of 64 kilobytes or in certain applications may have unconstrained size. Michener et al. only teaches dividing digital signals into packets but fails to suggest any arrangement in which packets are formed by dividing variable length encoding image data of one frame or using detected picture header information and data length comparison with a predetermined value less than a maximum set code area value to either packetize by dividing or without dividing as in Claim 1.

Neither Michener et al. nor Hiroshima et al. suggests anything about selecting to perform packetizing according to a detected picture header and whether or not the data length of variable length encoding data reaches a predetermined value within a code area set maximum value in which packetizing divides into the predetermined value and performs packetizing in case the data length of the variable length encoding image data of one frame is larger than the predetermined value and performs packetizing without dividing the variable length encoding image data in case the data length of variable length encoding image data of one frame is lower than the predetermined value. Hiroshima et al. only teaches cutting out data of a predetermined length for a TS payload. It is not seen that the addition of Michener et al.'s variable length packets below 64 kilobytes to form 127 byte long portions to Hiroshima et al.'s forming of packets of one predetermined length with a special code for a remainder packet could possibly teach or suggest the features of Claim 1. It is therefore believed that Claim 1 as currently amended is completely distinguished from Hiroshima et al. and any combination of Hiroshima et al. and Michener et al.

Claims 7 and 8 have been rejected under 35 U.S.C. § 103(a), as unpatentable over the Hiroshima '781 patent, in view of U.S. Patent No. 6,323,909 (Michener, et al.). With regard to the claims as currently amended, this rejections are respectfully traversed.

Independent Claims 7 and 8 as currently amended are directed to a method of variable length packetizing variable length encoding image data by a packet format in which the packet header has a code area indicating a value of packet length. The code area describes a code indicating a packet length in case the packet length is less than or equal to a predetermined value and describes a code indicating not to decide a packet length in case the packet length is larger than the predetermined value. According to the method, variable length encoding image data including a picture header indicating the start of one picture is inputted. The inputted picture header is detected in a first detecting step and it is detected whether a data length of variable length encoding image data for one frame that has been input reaches a predetermined value in a second detecting step. The predetermined value is less than or equal to a maximum value of packet length which can be specified in the code area. The variable length encoding image data is variable length packetized according to the outputs of the first and second detecting steps. The variable length packetizing divides into the predetermined value and performs packetizing in case the data length of variable length encoding image data of one frame is larger than the predetermined value and performs packetizing without dividing the variable length encoding image data in case the data length of variable length encoding image data of one frame is lower than the predetermined value.

It is a feature of Claims 7 and 8 that packetizing is performed by dividing a variable length encoding image data of one frame or packetizing without dividing according to a detected picture header input indicating the start of one picture and whether or not the data length of the variable length encoding image data of a variable length

encoded one frame reaches a predetermined value within a maximum value specified in the code area. As discussed with respect to Claim 1, Hiroshima et al. only teaches cutting out data of a predetermined length for a TS payload. While Michener et al. discloses variable length packets below 64 kilobytes, it is not seen that the addition of such variable length packets of Michener et al. to Hiroshima et al. which is devoid of any suggestion of selecting to packetize by dividing variable length image data of one frame in case the data length of variable length encoding image data of one frame is larger than a predetermined value or to packetize without dividing in case the data length of variable length encoding image data of one frame is lower than the predetermined value based on a detected picture header that indicates the start of one picture and whether the data length of variable length encoding image data for one frame reaches the predetermined value which is less than or equal to a maximum value of the packet length which can be specified in the code area. Accordingly, it is believed that Claims 7 and 8 as currently amended are completely distinguished from any combination of Hiroshima et al. and Michener et al. and are allowable.

Applicant submits that the prior art fails to anticipate the present invention. Moreover, Applicant submits that there are differences between the subject matter sought to be patented and the prior art, such that the subject matter taken as a whole would not have been obvious to one of ordinary skill in the art at the time the invention was made.

For the above reasons, Applicants submit that independent Claims 1, 7 and 8 are allowable over the cited art.

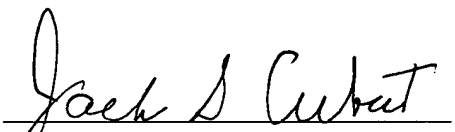
Claims 2 to 6 depend from Claim 1, and are believed allowable for the same reasons. Moreover, each of these dependent claims recites additional features in combination with the features of independent Claim 1, is believed allowable in its own right. Individual consideration of the dependent claims respectfully is requested.

Applicant requests that the present Amendment be entered under 37 CFR § 1.116. Applicant submits that the present amendments merely are minor or formal in nature, and reduce the number of issues for consideration. Applicant believes the present Amendment was necessitated by the outstanding Official Action, and submits that the present amendments were not previously made because Applicant believes the prior claims are allowable.

Applicant believes that the present Amendment is responsive to each of the points raised by the Examiner in the Official Action, and submits that the application is in allowable form. Favorable consideration of the claims and passage to issue of the present application at the Examiner's earliest convenience earnestly are solicited.

Applicant's attorney, C. Phillip Wrist, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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